USING NON-EMERGENCY INTER-FACILITY TRANSPORTS TO CREATE A REVENUE STREAM

STRATEGIC MANAGEMENT

BY: Richard A. Cheverie
Assistant Fire Chief
Bangor Fire Department
Bangor, Maine

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ABSTRACT

Since the inception of Maine's managed care plan, the Bangor Fire Department had striven to obtain contractual agreements with insurers by becoming a full service provider of emergency medical services. This was accomplished by expanding their services to include non-emergency transports. Private ambulance providers have increased their pressure on public fire service organizations to take over all medical transport in many communities, including the city of Bangor, Maine. The problem this created was a potential loss of revenues from the transport services, which would threaten the current revenue stream used to offset cost.

The purpose of this research project was to determine if fire-based non-emergency transport service should be performed by the Bangor Fire Department and to develop a potential revenue projection. A historical and descriptive research methodology was employed to answer the following research questions:

1. What is the Bangor Fire Department's current ambulance/rescue transport history?
2. What is the potential revenue projection from expanding into the inter-facility transport business?
3. What is the anticipated cost of providing this expanded service?
4. Can transport fees be utilized to supplement budgetary requirements?
5. Should the Bangor Fire Department expand its EMS services to include non-emergency inter-facility transports?

The research included a review of published literature, attendance of conferences involving inter-facility transports, and a historical review of the Bangor Fire Department's

ambulance/rescue service collection statistics. An analysis was made to determine the potential revenues based on local records of non-emergency transport calls for the City of Bangor.

Several results suggested expanding services to include non-emergency transports. Fire-based EMS includes an existing infrastructure which both supports rapid response times and the ability to provide non-emergency services. It was also determined that non-emergency transports offered a substantial revenue source.

Based on the research conducted, it was recommended that fire departments become aware of the potential revenues and consider providing non-emergency inter-facility transport services to their communities. It was also recommended that a joint management and labor EMS committee be involved in developing a strategic plan for the implementation process.

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INTRODUCTION

Shrinking annual budgets and the public's demand for a cost-effective delivery of emergency services had allowed the Bangor Fire Department, in recent years, to expand their Emergency Medical Services (EMS) division by reassigning existing personnel. This expansion had resulted in both an increase in collected revenues and greater dependance upon these funds. These revenues have become both anticipated and vital in the department's annual budgetary process.

With the introduction of the State of Maine's managed care plan, it was discovered that only those full-service providers of both prehospital care and transport were successful in obtaining the agreements that yielded the managed care contracts for their services. This resulted in the private for profit ambulance providers' renewed efforts to challenge the public fire service organizations to either maintain or takeover all medical transport in many communities. The problem this created was the potential loss of revenues from the transport services that would eventually threaten the current revenue stream used to help offset cost.

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BACKGROUND AND SIGNIFICANCE

The Bangor Fire Department has a long tradition of dedicated service to the community dating back to 1814, when the residents raised fifty dollars for their first fire station. In the mid 1960's the Bangor Fire Department (See the organization chart, Appendix A) started its EMS division. In those early days they not only transported all emergency patients in the community, but provided a full inter-facility and non-emergency transport service as well. Bangor Fire Department remained a full-service provider until 1978, when they turned over all inter-facility transports to Medic Ambulance, a local private for-profit ambulance company, and concentrated their efforts in the area of emergency prehospital care and transport.

In 1989 a second private ambulance company, Capital Ambulance, appeared in the City of Bangor. Within a couple of years they were the only private ambulance service remaining within the community. The change in ambulance providers did not result in any perceived change of arrangements or services from the viewpoint of the Bangor Fire Department. Capital Ambulance simply took over all the inter-facility business that the two companies had previously competitively shared.

Bangor Fire Department's arrangement to provide only an emergency care and transport service continued until the State of Maine introduced its ambitious managed health care plan in

in June of 1996. The state's plan encouraged all the full service providers of prehospital care and transport to enter into a contractual agreement for reimbursement with the managed care insurance companies.

In recent years, the Bangor Fire Department had undertaken several steps to insure improvements in their EMS program. The level of service had improved from providing a basic life support (BLS) service to providing an advanced life support (ALS) program with paramedics on each rescue/ambulance. As the quality of EMS service increased so did the quantity of EMS calls. This resulted in an expansion from one to three rescue units in less than two years. It also allowed the strategic placement of a rescue unit at each of the three fire stations, to reduce city-wide response times.

EMS providers of both prehospital care and medical transport have discovered the profound impact that managed care can have upon the unprepared provider. Under the State of Maine's managed care plan, the contracted provider negotiates a per capita rate to be paid periodically for the delivery of these prehospital services. The providing or contracted ambulance service no longer charges for each transport but is paid a stipulated dollar amount determined by the insurance company to cover the cost of the rendered care. The state's Request for Proposal (RFP) encouraged the insurers to secure contracts with full-service providers of both prehospital care and transport. This concept, by design, had the effect of precluding many public fire service organizations from entering into the process. If the Bangor Fire Department was not a contracted provider, it would no longer be receiving payments under the managed care plan. This would have an obvious negative impact on the annual budget.

While the administrators of the Bangor Fire Department were facing the inevitable changes that the state's managed care plan would bring to the department, the local private for profit ambulance company submitted a proposal directly to the city manager and city council. The private for-profit Capital Ambulance Service wanted to take over all patient transports within the greater Bangor area. They suggested that the fire department continue to provide an emergency first response EMS service by responding with their ALS engine companies and simply turn the patients over to them for additional care and transport. They also volunteered to take care of all billing and collections. This aggressive strategy would have resulted in the possible loss of the EMS division. That could have translated into 16 positions eliminated, along with the three rescue units.

This research project addressed the issue of determining when change is inevitable, necessary, or advantageous to an organization, an issue analyzed in the Strategic Management of Change course (module 3) at the National Fire Academy. Faced with the inevitability of significant change to the EMS revenue stream, the Bangor Fire Department needed to determine if the expansion into the inter-facility transport arena would be advantageous. This paradigm shift would require the development of an alternative strategy to address the challenge of maintaining the EMS revenue source and the positions connected with it. It is anticipated that the resolution strategy developed for the Bangor Fire Department's administrators could be generalized for application in other departments faced with the issue of non-emergency inter-facility transport.

LITERATURE REVIEW

The data review for this project involved the examination of literature pertaining to the issue of inter-facility transport from three general subject areas. First, literature on non-emergency transports was reviewed as it pertains to emergency medical services. This body of articles was examined to obtain insight into the influence it has on the providers of prehospital care and transport. Second, literature on inter-facility transports was reviewed to determine the potential impact it has on the medical transport organization. Finally, fire service and emergency medical service literature was reviewed to determine what other jurisdictions had experienced. This material was examined to seek guidance from the successes and failures of other fire-based EMS organizations.

The Influence of Non-Emergency Transports

In a published medicare update, David M. Werfel provided a review on medicare covered non-emergency transports.

> Medicare carriers currently provide coverage for their clients that require non-emergency transports. According to the Medicare Carriers Manual s 2120.2A, medicare covers ambulance services only if all other means of transportation are contraindicated based on the condition of patient. What this means is that there is no coverage for ambulance services if the patient could be transported safely by other means whether or not those modes of transportation are available. Coverage for most non-emergency transports is determined by whether the patient was bed-confined or could be moved only by stretcher (Werfel, 1996).

Providing non-emergency and inter-facility transports, participating in a "managed-care" arrangement, or agreeing to an "expanded-scope-of-practice" provision in which the fire department

forms a partnership with the hospital may become a win-win situation (Sachs, 1997). All too often the fire-based providers are providing non-emergency transfers without actually offering the service to their communities (Roush, 1996). By assuming the role of non-urgent transport from the nursing homes to clinics, fire-based EMS providers may actually reduce inappropriate users of the EMS system (Wofford, *et al.*, 1995).

In the white paper document, EMS Agenda for the Future, Robert Suter (1996) explained the concept of non-emergency transports in this manner:

> Transportation of patients to non-emergency medical care facilities, or between facilities, may be accomplished by EMS providers or ambulance services operating outside the EMS system. Out-of-facility EMS providers must assume different roles with respect to primary and secondary transport. It should include non-emergency/secondary transfers, when patients are being moved to a different level of care or to access providers responsible for ongoing care (Bailey, *et al.*, 1996).

A common type of service fire department EMS agencies are beginning to offer is non-emergency transport, traditionally the domain of private companies (Lipowitz, 1995). Expanding the scope of practice can mean any non-emergency service such as transporting the elderly to regularly scheduled hospital appointments (Lipowitz, 1995).

The City of Lufkin Fire Department in Lufkin, Texas, expanded their EMS role by taking up non-emergency transport in May of 1994 (Prewitt, 1995). Chief Prewitt pointed out the move was the right one for his department.

"Based on current trends, it appears that revenues from the new medical transport service will

> pay for the entire operation and generate a modest profit as well. It has not been an easy venture, but we know it was the right choice at the right time, and was certainly preferable to handing over the station keys to a private firm" (Prewitt, 1995).

The Impact of Inter-facility Transports

In most instances inter-hospital transfers are not required. However, transfer to other medical centers may sometimes be needed when it is in the best interest of the patient (Leibovici, *et al.*, 1997). There are cases in which patients are admitted to non-contracted hospitals and the patient insurer requires the patient be transferred to a contracted facility (Menkin, 1997). There are also several situations that might result in the need to have an inter-facility transfer, including the following:

> (1) Severe injuries that endanger life immediately and require initial stabilization at the nearest hospital prior to transfer to a trauma center; (2) occult injuries that warrant treatment at a trauma center, cannot be diagnosed at the scene, and are revealed at the transferring hospital; (3) insufficient local resources, such as lack of specific medical disciplines at the transferring hospital; and (4) triage errors at the scene. (Leibovici, *et al.*, 1997).

Because of its inherent strengths, the fire service is often a superb platform from which to deliver a full range of emergency medical services, including transportation (Blaul, 1997). This becomes paramount, since many satellite hospitals and nursing homes that want reliable inter-facility transport providers are often looking for alternatives (Miller and Moore, 1997). Fire departments generally have a history of fiscal responsibility and dependable community service which may make them attractive partners in the inter-facility transport arena (Kuehl, 1995). This is a change for the fire service, asking what we can do for the health care community rather than expecting it to meet our

century-old needs (Sachs, 1997).

At the 1997 IAFF conference in Atlantic City, Joseph Stothert, MD, the director of trauma services and surgical critical care at Creighton University of Medicine, in Omaha, Nebraska, spoke on the issue of inter-facility transportation. He expressed concern that**,** "very few fire departments have taken on the additional role of inter-facility transportation." This is a role the fire department is eminently suited for, and each department should examine the potential for instituting inter-facility transportation to augment its ability to care for more critically ill or injured patients (Stothert, 1997).

In Joseph Stothert's printed abstract he outlined the prevalent prehospital medical care models that can be seen across the country as follows:

> (1)Emergency first response; (2)emergency response plus advanced life support; (3)emergency response plus advanced life support plus transport to the treating facility; and (4)first response, advanced life support, transportation and inter-facility transportation. Increasingly, the first three models of the fire service response are widely utilized throughout United States and Canada (Stothert, 1997).

The future of emergency response and non-emergency response is wide open (Sachs, 1997). Ronald Blaul provided insight as to why the fire service CEO may want to explore expanding their department's EMS role to include inter-facility transports.

> Budget cuts are often accompanied by a mandate to seek new revenue sources to offset cost. This has caused an increasing number of fire chiefs to examine the prospects of beginning or, more typically, expanding the scope of EMS that their organizations provide. Typically expanding your ambulance transportation may carry new revenue sources that may partially or completely offset the existing cost of EMS (Blaul, 1997).

He went on to explain the importance of bringing the key players on board and having that base of support.

> Nothing could be worse than to embark on new patient care service with a work force opposed to performing them. Likewise, if your public policy-makers aren't committed to investing a considerable amount of time and effort in understanding the issues and assertively sorting through the conflicting information to arrive at what's best for the community, then you've lost before you've begun (Blaul, 1997).

When looking at providing inter-facility transport service to the community, Joseph Stothert suggested that providing adequate resources and personnel to allow this type of response is becoming progressively more expensive (1997). Stothert suggested that fire service administrators look beyond the cost of indicating the inter-facility service.

> Fire services need to consider additional sources of revenue to offset the prime function of providing emergency medical care to those in need. Inter-facility transportation provides an additional potential funding source which could support the more expensive emergency medical services (Stothert, 1997).

Non-Emergency Inter-facility Transports and Fire Service EMS

Ultimately, anything nontraditional represents a risk, but so does not preparing well enough for the future (Davis, 1994). Forces beyond our control will have a great impact on the future of the fire service and the provision of EMS to the communities we protect (Krakeel, 1997). Change is something every agency must consider, not only for their own survival, but in how limited budgets are used to provide services to the community (Thorp, 1996). The fire service community must recognize

the inherent value of the EMS system and use it to its fullest capability (Krakeel, 1997).

Managed care organizations look for ways to control cost. When contracting for services, they're interested in agreements that cover large numbers of their members and a range of logically related services (Neely and Krakeel, 1997). A single contract is more efficient for a health plan to administer (Neely and Krakeel, 1997). Insurers are looking for the full service providers, those that do it all, to contract with (Krakeel, 1997). Neely and Krakeel encouraged fire service providers of EMS to sit at the table with insurers and open a dialog.

> Managed-care organizations have to be brought to the table. They need to understand the unique characteristics and needs of EMS and the fire service. The fire service needs to understand the unique characteristics and needs of the health plans. This can only happen by getting to know each other in a context that strives to establish mutually beneficial partnerships.

At the 1997 "Charting the Future of Fire Based EMS" conference in Atlantic City, New Jersey, Alfred K. Whitehead, the general president of the International Association of Firefighters (IAFF), expressed his concern that, "firefighters and fire department administrators must prepare to face the challenges presented by EMS privatization." He went on to say, "you must prepare to protect the integrity of the EMS system you now provide and enhance your system to provide a more advanced level of service and an expanded scope of practice for the citizens in your community."

At the same conference Lori Moore, the director of the EMS staff of the IAFF, expressed her concern that, "fire service leaders must assess the strengths and weaknesses of their EMS systems and determine if extending or improving the services already offered or implementing new services would add value to their departments in the future."

Many experts believe that the ambulance industry is in an excellent position to bundle a variety of health care services to potential customers (Zavadsky, 1997). This view was shared in the IAFF's published monograph:

> Additional services should be considered for fire departments that consistently meet the community's needs in the delivery of core emergency components. Valued added services can include injury prevention programs, elderly patient follow-up, inter-facility transport, and perhaps primary health care (Miller and Moore, 1997).

Miller and Moore pointed out that fire service providers of EMS should seriously consider expanding into the inter-facility transport service.

> Fire departments should consider instituting inter-facility transport services to augment their ability to care for the more critically ill or injured patient. Fire-based EMS systems can increase the number of revenue generating transports by establishing inter-facility transport contracts with area hospitals, nursing facilities, and health insurers. These contracts are secondary to the provision of emergency response and must not compromise the integrity of the emergency system (Miller and Moore, 1997).

> The cost of expanding into the transport business will likely be a point of contention for those opposed to the effort (Sachs, 1997). Miller and Moore went on to report that the revenue generated from providing these additional services should more than offset the cost of implementation (1997).
>
> It is smart business, making maximum use of, and getting maximum return on, all the corporation's assets and resources, especially our human resources (Williams, 1991). Unlike most private providers, fire-based EMS transportation providers provide both transport and first response

services. In addition, personnel on these units typically respond and assist on fire suppression activities (Goebel, *et al*. 1997).

Opposition to inter-facility transportation comes primarily from within the fire department and from private services outside the fire department (Stothert, 1997). Joseph Stothert went on to explain that the more progressive fire administrators have noted an increasing need for emergency medical response and rescue, a niche that is very comfortably filled by the fire service (1997).

The concept of developing inter-facility transport involves changing the mind set of fire administration from that of emergency medical and fire services to running an agency which financially can afford to perform these services (Stothert, 1997). This changing health-care environment will create realistic opportunities for the fire service (Krakeel, 1996).

In a time of increased managed care in the medical arena, Joseph Stothert had some suggestions for administrators.

> The fire service should actively seek and develop contractual relationships and utilize all available resources. The second group which tends to become alarmed when the fire service contemplates inter-facility transportation is the private sector ambulance transport system. The primary risk to the fire service is that the private services will attempt to
>
> dissuade the public services from providing any of these services (Stothert, 1997).

In a personal interview, Jeffrey Cammack, Bangor Fire Department's chief, expressed his concern that the transition towards providing a non-emergency and inter-facility transport service was simply "survival."

Fire service providers must be proactive in setting the standards for their departments or

> someone else will do it for them. If we do not establish our department as a full service provider we stand to be excluded from the process of being a contracted provider and could lose the reimbursements we currently receive from providing the emergency ambulance/rescue service. This would increase our financial burden on the taxpayers, that is something the city fathers are reluctant to embrace (Cammack, 1998).

Cammack expressed that the process has taken time; neither the city fathers nor this department wants to be accused of "stepping on the private sectors toes" (Cammack, 1998).

In a telephone interview with Gary Nauta, president of local 851 of the IAFF in Eugene, Oregon, he suggested that the fire service organizations exploring the possibility of becoming a full service take the time necessary to do it right. "In the public sector you get only one chance to make it work, after that you're done. Someone else will be scraping your remains off the pavement" (Nauta, 1997).

In a personal interview with Robert Bowie, MD, Bangor Fire Department's medical director, he expressed his support for adding both non-emergency and inter-facility transport to the services currently provided.

> The fire service must remain committed to ensuring that the integrity of the primary mission — providing rapid, effective on-scene emergency care — this must be maintained. However, without a clear vision and plan for meeting the managed health care challenge by adding the necessary service to be attractive to insurers, the fire service role will eventually revert to becoming a first responder to the uninsured (Bowie, 1998).

> The future is now - we will either be part of molding the course of history or standing on the

sidelines watching it pass us by (Zavadsky, 1997).

In summary, the literature revealed that non-emergency and inter-facility transports can open a new revenue stream that few fire-based services are utilizing. Articles suggested that the current trend of obtaining contracts with prehospital providers will continue as the managed health care companies look at more efficient ways of delivering patient care.

Several articles indicated that only those EMS services that are receptive to the idea of expanding their services, to include non-emergency and inter-facility transport, are prepared to enter into contract negotiations with insurers.

In the review of articles dealing with fire service providers of EMS, many indicated that they are insufficiently informed about the possibilities non-emergency and inter-facility transport may offer their organizations. Most articles expressed concern that the fire-based providers of prehospital care and transport are overlooking this possible revenue stream.

The literature reflects that the impact of non-emergency and inter-facility transport on fire service providers of EMS does vary from state to state. A consistent theme through all the articles, however, is the need to have a clear vision which will provide both a guide to action and a reference point from which successes can be measured.

PROCEDURES

A review of the literature on inter-facility, non-emergency transport, and related fire based EMS articles comprised the first stage of the research procedure. The literature review was conducted using a descriptive research methodology. Literature reviews were conducted using the

research facilities at the University of Maine at Orono, Maine, the Bangor Public Library in Bangor, Maine, and the Maine State Library in Augusta, Maine. Requests were also submitted to the Learning Resource Center at the National Emergency Training Center, the International Association of Firefighters EMS division, and the International Association of Fire Chiefs. In addition, several journal articles and research papers were identified as having relevance to this paper. The Internet was searched for articles on fire-based non-emergency transports. Further, a search was conducted of recent articles (the last four years) in issues of fire service and emergency medical service trade journals pertaining to inter-facility non-emergency transport.

The articles that were identified through the literature search were reviewed and analyzed; those that were deemed pertinent were summarized for inclusion in the literature review section of this paper.

Fire administrators attended the International Association of Firefighters EMS conference, "Charting the Future of Fire-Based EMS" held in Atlantic City, New Jersey on October 6-9, 1997. The administrators also held meetings, and had discussions with other department's administrators involved with non-emergency transports to obtain a broad perspective on the affects non-emergency transports have had on their departments.

A personal interview was conducted with Jeffrey A. Cammack, who is both the chief of the Bangor Fire Department and is the president of the Maine Ambulance Association, on the morning of January 14, 1998. This interview lasted approximately 60 minutes (See interview outline, Appendix B).

A personal interview was also conducted with Robert Bowie, who is both the medical director for the Bangor Fire Department and an emergency room staff physician with St. Joseph Hospital in

Bangor, Maine, on the evening of January 5, 1998. This interview exceeded 30 minutes (See interview outline, Appendix B).

Due to both time and distance constraints, several telephone interviews were conducted to obtain either clarification of points raised in the literature review or to obtain additional viewpoints (See interview outline, Appendix B). These telephone interviews seeking additional viewpoints lasted between 30 to 40 minutes. On November 10, 1997, Gary Nauta, the president of local 851 of the IAFF, was contacted to obtain his views on his department's inter-facility transport system. On December 18, 1997, Francis Finnegan, the Director of Maine's Department of Human Services Medicaid Program, was contacted to clarify the state's viewpoint. Finally, on January 19, 1998, Terry Schenk, the chief of Seminole County Fire Rescue, was contacted to obtain his viewpoint of his department's experiences from taking over all non-emergency transports within Seminole County.

E-mail was utilized to seek additional viewpoints or clarification from the contacted administrators that are online or to obtain other contacts for seeking additional information.

A review of Bangor Fire's EMS history and EMS financial reports was conducted to establish a baseline to make a revenue projection. The quarterly reports from the State of Maine EMS region 4 were utilized to establish the potential number of inter-facility non-emergency transports conducted in the greater Bangor area. Several users of inter-facility transports were contacted to obtain a specific number of daily inter-facility transfers they would require. The collected data was reviewed and scrutinized to determine a realistic number of anticipated transports. This number was utilized to establish the revenue projection for the department's administrators.

Limitations

This research project faced several limitations that affected the outcome. First, inter-facility non-emergency transport is a relatively new concept to fire-based providers of EMS. The current trend in the fire service is for providers to expand their service delivery to include emergency transport. The area of non-emergency transport is relatively dominated by the private providers and they are historically less than enthusiastic about sharing information with the fire service.

Research is indelibly linked with and dependent on accurate information, however, literature dealing with the effects of expanding EMS to include inter-facility transports on fire service providers is very limited. There are no definitive programs that appear to answer all the issues. While "experts" may speculate, predict, and make suggestions on how providers should proceed, there is no clear database that has been proven to address the specific circumstances a department may be facing.

These individual circumstances and the various level of services that fire-based EMS are providing was identified as the second limiting factor. It was discovered in the research process that many different approaches were being used to address the different challenges presented to providers of fire service inter-facility non-emergency transport. Only those that were identified as having relevance to the Bangor Fire Department were pursued for this project.

Since the fire service has a long tradition and established method of operation, change comes slowly. This was identified as the third limiting factor that had to be overcome. A joint labor and management committee was utilized to address this issue.

This research project was conducted with the knowledge that there was insufficient information to provide a historical evaluation of the issue. However, since the Bangor Fire Department was facing the inevitability of dealing with becoming a full-service provider, this became

an emergent issue. It was decided by the administration that it was imperative to collect as much information as possible to prepare for this new challenge. Both a historical and descriptive methodology was employed to determine a strategy for the fire department's transition to becoming a full-service provider. The historical research was confined to data collected for the past four years.

All of these issues made it clear that a research database should be established that can be both added to and drawn from by other fire service providers considering expanding their services to include inter-facility non-emergency transports.

Definition of terms

Advance life support (ALS) Special services designed to provide definitive prehospital emergency medical care, including, but not limited to, cardiopulmonary resuscitation, cardiac monitoring, cardiac defibrillation, advanced airway management, intravenous therapy, administration of specific drugs and other medicinal preparations, and other specific techniques and procedures administered by authorized personnel.

Basic life support (BLS) Emergency lifesaving non-invasive procedures performed by trained personnel to stabilize patients who have experience sudden illness or injury.

Emergency medical services (EMS) A public safety entity charged with delivering a public health service or a combination of emergency medical care and emergency medical transportation, provided outside the hospital.

Full-service provider A provider that offers both a full range of emergency and non-emergency services originating and terminating within a defined service area.

Health care A system of support that is in place to meet both the physical and mental

well-being needs of the patient. This system supports patient health by promoting freedom from defect, freedom from pain, freedom from disease, restoration of normal function, and restoration of the patient's quality of life.

Inter-facility Having to do with the transport or transfer of a patient between heath care facilities.

Managed care A structured, organized approach to health care where everyone receives all the medically necessary and medically appropriate care in an economically feasible manner. This system, in varying degrees, integrates the financing and delivery of medical care through contracts with selected healthcare providers of health care services to provide their health care to enrolled members for a predetermined monthly premium.

Protocol Plan for a course of medical treatment; the current standard of acceptable medical practice that must be adhered to.

Request for proposal (RFP) A concise document outlining the requirements of the local government and allowing the respondents to propose a system that would meet these requirements, with cost being one factor among many.

RESULTS

At the onset of this research project, five specific research questions were identified. The results of the research are organized around those five questions and are presented in order: 1.

What is the Bangor Fire Department's current ambulance/rescue transport history?

Based on the information gathered from the EMS billing clerk, the Bangor Fire Department's

emergency medical responses have continued to increase in each of the past four years.

Table 1

Overview of Bangor Fire's EMS Response History

Year	Number of EMS Calls	Number of Transports	Net Receivables
1994	2587	2006	$ 224,383.98
1995	2756	2228	$ 321,969.71
1996	3367	3027	$ 453,234.07
1997	3929	3444	$ 520,059.73

Table 1 displays an overview of Bangor Fire Department's emergency medical response calls for the past four years and the revenues collected. Each year has clearly shown a marked increase in both the number of EMS calls and in the number of transports. The Bangor Fire Department has experienced that the revenue generated by the EMS division is directly related to the growing number of EMS calls. It is anticipated that this trend will continue into the near future.

Since the Bangor Fire Department was not involved in providing the non-emergency or inter-facility transport services in the city during 1994 through 1997, those numbers were not a factor in determining the historical revenue stream.

2. What is the potential revenue projection from expanding into the inter-facility transport business?

In looking for the available potential that the department might expect from expanding into the inter-facility transport business, several sources of information were gathered and studied. The records from Maine Emergency Medical Service's Region 4 were reviewed to determine the actual

number of non-emergency and inter-facility transports that are performed within our area (See the Maine EMS total runs per type of run, Appendix C). Since Bangor is the centralized hub of most medical services in region 4, about 73 % of the non-emergency transport either originate or conclude at one of the 4 medical facilities within the city.

Maine EMS considers both inter-facility transports and non-emergency transports as routine transfers for the purpose of their statical analysis. Contacts were made with selected facilities in the community to determine their needs and to obtain an approximate number of non-emergency and inter-facility transports they would anticipate using the services of Bangor Fire Department. The joint labor and management 'EMS Committee' reviewed the available data and determined that Bangor Fire Department was providing fewer than 1% of the non-emergency transports in the region.

Table 2

Comparison of Bangor Fire's Routine (Non-Emergency) Transfers to Region 4

Year	Routine Transfers	Total for Region 4	Bangor's Percentage
1994	18	6148	< 1%
1995	20	7105	< 1%
1996	43	8862	< 1%
1997	93	10087	< 1%

Table 2 displays the actual number of routine transfers provided by the Bangor Fire Department in comparison to those in region 4. It was determined by the EMS committee that with two additional rescue units the department could conservatively anticipate to provide a total of 12

inter-facility transports per day. This would increase Bangor Fire's share of the inter-facility and non-emergency transports from the 93 in 1997 to an estimated 4370 in 1998 or 43% of the region's total routine transfers.

Table 3

Revenue Projections (based on 12 transports per day)

Charge per Transport	Gross Receipts
$200	$ 873,600.00
$250	$1,092,000.00
$275	$1,201,200.00
$300	$1,310,400.00

Table 3 displays the amount that would be billed based upon the charges indicated per transport. It was decided by the administration to use the lower figure in presenting the overall package to the city council. Using the very conservative average of $200.00 per transport this would translate into $873,600.00 in gross receipts.

3. What is the anticipated cost of providing this expanded service?

To establish an anticipated cost of providing both inter-facility and non-emergency transport, several factors needed to be considered. The first item to be considered was the cost of the two additional rescue/ambulance units. Bangor Fire was offered the use of two rescue units from a local nonprofit EMS service at the very reasonable cost of $12,000 a year. The second consideration was the cost of fuel for the vehicles, which was estimated at $12,000 for a year. The third item to be

considered was the maintenance cost. Mechanical cost was estimated at $8,000 per year. Since the City of Bangor is self-insured, the fourth issue of insurance cost was established at $1,000 a year for the additional required insurance. Bangor Fire maintains a full set of backup equipment for the EMS division rescues, and the fifth cost to be added was for additional supplies that would be required; this cost was set at $15,000 a year. The final expenditure to be added into the cost of operations were the wages and benefits of the rescue personnel and the support staff. Yearly wages, benefits and associated expenses were estimated at $423,176, resulting in a total yearly cost being set at $471,176.

4. Can transport fees be utilized to supplement budgetary requirements?

In answering this question, the research established that there were several approaches that chief administrators applied to maintain the revenue source for their departments. However, the City of Bangor's ordinances and policies prohibited the Bangor Fire Department from applying several of these approaches.

The Bangor Fire Department's administrators began to explore the two most likely choices that were available to them. First, since the department is currently funded through the tax base, the revenue could go directly into the general fund, with the understanding that the department would have priority in obtaining any additional funds to meet non-budgetary needs. The second choice that was considered was to establish a private enterprise fund. However, since the department had not budgeted the program, and the initial startup cost was needed from the general fund, it was decided to go with the first. If the program did not meet the administrator's expectations, being still under the city's general fund would provide a buffer for the department. Although the fees would not be supplemental to the budget, the department's administrators could tap into that resource as the needs

warranted.

5. Should the Bangor Fire Department expand its EMS services to include non-emergency inter-facility transports?

The literature reflects that most providers will be called upon to expand their scope of practice in the effort to meet the challenges placed on them by managed care. This is a shift from the normal paradigm of services currently rendered, to treat and transport only the emergency patient. However, this shift will provide opportunities for EMS personnel to do more in the prehospital care and transport.

The literature review suggested that this new role of inter-facility and non-emergency transports can provide a new revenue stream that many fire based providers are currently overlooking. Several articles suggested that providing this expanded role of service could generate sufficient funds to cover all the cost of the service and return some revenue back to the community. The revenue, when applied to offset the budget, would result in reducing the impact upon the citizen/taxpayer by reducing the fire service's burden on the system.

Table 4

Revenue Projection Summary

Charge per Transport	Gross Receipts	Total Cost	Net Revenue
$200	$ 873,000	$471,176	$401,824
$250	$1,092,000	$471,176	$620,824
$275	$1,201,200	$471,176	$730,024
$300	$1,310,400	$471,176	$839,224

Table 4 displays the revenue projection summary showing the net revenue that would be anticipated. Although this analysis of the cost and net income is a simplified view of a complex and dynamic system, it does establish some of the basic parameters of the issues of inter-facility and non-emergency transport.

Throughout the literature research, it became evident that the fire service must consider expanding their role of service if providers expect to be prepared to meet the demanding needs of the contractors of managed care. Bangor Fire is one of those providers that is faced with the need of becoming a full-service provider if they were to enter contractual negotiation with insurers. With labor and management working together the opportunity was unfolding, and ultimately Chief Cammack answered the question of what Bangor Fire Department's role should be:

If we do not establish our department as a full service provider we stand to be excluded from the process of being a contracted provider and could lose the reimbursements we currently receive from providing the emergency ambulance/rescue service. This would increase our financial burden on the taxpayers, that is something the city fathers are reluctant to embrace

(Cammack, 1998).

DISCUSSION

The literature review establishes that EMS has been and probably will remain a vital component of fire service operations. The only question that remains to be answered is just how involved will each fire-based provider become? For the Bangor Fire Department, the answer was fairly easy. Survival of the current system and the personnel that support it demands our expansion into the inter-facility and non-emergency arena. Many communities have a substantial investment in their local fire department for apparatus, equipment, personnel and training. When an emergency situation does occur, the citizens call 911 with the anticipation that the fire department will quickly respond and professionally handle the emergency at hand. They expect the fire department not only to respond to fires but all medical emergencies and other situations they may experience. It appears then that a logical extension of the EMS service would be to expand beyond providing emergency transports to providing inter-facility and non-emergency transports as well.

> This researcher's observations concur with the documents reviewed and the views voiced in the interviews, that most fire department administrators are overlooking this possible revenue source. The motivating factor for several departments currently involved in providing inter-facility and non-emergency transport has been the competitive bidding process and other venture-motivated bargaining that has allowed them to respond to the demands of managed care insurers. The primary cause for concern appears to be the lack of common understanding and shared vision of what this revenue stream will mean to an organization.

It became apparent from the research process that the Bangor Fire Department would need to expand its level of service to become attractive to the managed care companies. Most companies desire providers that offer a wide range of services, which allows them to deal with a single provider for all their subscriber's health care needs.

While the issue of the state's managed care plan is of great concern to the Bangor Fire Department, so is the threat posed by the local private for-profit ambulance service in our community. The fire service is internally competitive by nature. Promotions, assignments, and hiring practices are normally conducted through competitive means. The threat posed by the private service to take over all transports (which would impact job security) provided a new front. This external front is another challenge to be answered by executive fire administrators:

> Competition is essential for improving almost everything we do. It fuels the drive to attain higher achievement ..... a patient care system without some inherent form of competition will eventually become sloppy and careless ..... competition results in better patient care. The competition between services, and between public and private sectors, will ultimately stimulate improvements on all sides (Page, 1994).

The Bangor Fire Department has taken the position that by expanding its service to embrace inter-facility and non-emergency transports it is being responsive to the communities' needs and is improving its position to respond to managed care. Bangor Fire is not only upgrading to offer a superior service, but is also attempting to generate revenue to lessen the burden of the department upon the taxpaying community.

This researcher discovered, as a result of this data, that the clear vision is one unobstructed

by preconceived ideas and well informed of the full range of possibilities an issue presents. In dealing with this issue the strategic plan must not be cast in stone, but needs to be flexible and have a contingent plan ready to be implemented at a moment's notice. Although there has been broad based support from the key players, it is evident that few fully understand the implications and are willing to buy into the proposed strategic plan. Furthermore, as the process unfolds and problems are identified, fine tuning will be required to both the attitudes in conflict and the overall strategic plan.

RECOMMENDATIONS

This study supports fire-based EMS full service patient transport, which includes both inter-facility and non-emergency transports, as a means to secure the future of the fire service. This researcher agrees with these facts and recommends the following steps to meet these objectives:

Organizations should appreciate that with any change there is conflict and resistance. Managers should plan to secure broad based support from the administrative team, city council and the labor force as early as possible. Open communications, necessary training, and educational development requires the support of all key players prior to implementing any change in the EMS system. The time and energy devoted to gaining employee input regarding the perceived changes that could occur with expanding the EMS services to include inter-facility and non-emergency transports, is time well spent.

Encourage fire service organizations to take a pro-active role in providing inter-facility and non-emergency transport, utilizing the lessons learned by other fire departments. Look for

opportunities to support your service and enhance your value to the community by tapping into this revenue stream. Begin to broaden the scope of treatment and services within the restrictions of your protocols and budget. The success of similar fire-based organizations should motivate others before they are pushed into action from the threat of privatization or the failure to secure the managed care contracts that may be necessary for their survival.

The Bangor Fire Department should continue to expand their EMS system to include the inter-facility and non-emergency transport service. Develop a data base that can be utilized to illustrate the actual statistics of providing the expanded service. Read the EMS and Fire Service journals to remain current on the changing trends. Understand how the specific system utilized by the department will work, and prepare the service to integrate with it. Evaluate and modify the system by fine tuning it until it is an inseparable part of the organization.

In conclusion, fire service managers need to be visionaries. They need to apply creative management techniques to the fire department by exploring any new concepts that may assist their budget. The key to success of the fire service organization will be discovered through taking a pro-active approach to managing these revenue streams. No administrator should sit back and wait until forced to act, but should research new ideas and concepts that will ensure the future of the fire service organization.

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APPENDIX A

Bangor Fire Department

1998 Organizational Chart

Fire Chief

Asst. Chief A-Crew Communications

Captain Central Station

Lt.
Station 5

Rescue 5
FF Paramedic
FF EMT

Engine 5
FF
FF EMT-I
FF EMT

Lt.
Central

Engine 1
FF Paramedic
FF

Ladder 1
FF
FF

Rescue 1
FF Paramedic
FF EMT

Lt.
Station 6

Rescue 6
FF Paramedic
FF EMT

Engine 6
FF
FF EMT-I
FF EMT

Asst. Chief B-Crew Vehicles

Captain Central Station

Lt.
Central

Engine 1
FF Paramedic
FF

Ladder 1
FF
FF

Rescue 1
FF Paramedic
FF EMT

Captain Station Six

Rescue 6
FF Paramedic
FF EMT

Engine 6
FF
FF EMT-I
FF EMT

Asst. Chief C-Crew EMS

Captain Central Station

Lt.
Station 5

Rescue 5
FF Paramedic
FF EMT

Engine 5
FF
FF EMT-I
FF EMT

Lt.
Central

Engine 1
FF Paramedic
FF

Ladder 1
FF
FF

Rescue 1
FF Paramedic
FF EMT

Lt.
Station 6

Rescue 6
FF Paramedic
FF EMT

Engine 6
FF
FF EMT-I
FF EMT

Asst. Chief D-Crew Prevention/Ed.

Captain Central Station

Lt.
Central

Engine 1
FF Paramedic
FF

Ladder 1
FF
FF

Rescue 1
FF Paramedic
FF EMT

Captain Station Five

Rescue 5
FF Paramedic
FF EMT

Engine 5
FF
FF EMT-I
FF EMT

APPENDIX B

EFOP Research Project
Interview Questions

1. Please outline the anticipated changes you expect to occur from the anticipated move towards providing a non-emergency transport service.

2. What factors were considered by your organization that either encouraged or discouraged the move to expand your EMS services to include inter-facility non-emergency transports?

3. In your estimation, what are the positive aspects of providing this level of service?

4. Have you encountered any negative aspects to the transition which were either anticipated or unanticipated?

5. What steps did you employ to manage the problems and continue moving towards the role of non-emergency transport?

6. Please outline to the extent possible, what changes your organization has either experienced or anticipates in their revenue stream that can be attributed to inter-facility non-emergency transport.

7. If you could step back in time and start through the transition again, knowing what you do, would you do anything differently?

8. What advice would you give to other fire services that are entering into the transition of assuming the role of inter-facility non-emergency transports?

APPENDIX C

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 01/01/94 - 12/31/94

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	134185	73948	55%	4067	3%	34866	26%	13098	10%	8206	6%
REGION 4	25335	14732	58%	1071	4%	6148	24%	1994	8%	1390	5%
050 Bangor Fire Department	2587	1782	69%	6	0%	18	1%	282	11%	499	19%

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 01/01/95 - 12/31/95

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	142574	75604	53%	4338	3%	39698	28%	13920	10%	9014	6%
REGION 4	27080	15314	57%	1145	4%	7105	26%	2044	8%	1472	5%
050 Bangor Fire Department	2756	1930	70%	9	0%	20	1%	288	10%	509	18%

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 01/01/96 - 12/31/96

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSFER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	151549	77682	51%	4549	3%	44024	29%	16475	11%	8819	6%
REGION 4	29173	15524	53%	1078	4%	362	30%	2048	7%	1661	6%
050 Bangor Fire Department	3367	2263	67%	11	0%	43	1%	279	8%	771	23%

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 01/01/97 - 03/31/97

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSFER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	39777	19947	50%	1180	3%	12636	32%	3935	10%	2079	5%
REGION 4	'926	4085	52%	256	3%	54	33%	494	6%	437	6%
050 Bangor Fire Department	898	607	68%	2	0%	10	1%	76	8%	203	23%

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 04/01/97 - 06/30/97

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSFER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	39209	19330	49%	1254	3%	12457	32%	3804	10%	2364	6%
REGION 4	7943	4033	51%	332	4%	38	33%	504	6%	436	5%
050 Bangor Fire Department	831	579	70%		1%	21	3%	48	6%	177	1%

MAINE EMERGENCY MEDICAL SERVICES

Bangor Fire Department

TABLE 5B: TOTAL RUNS PER TYPE OF RUN
FOR TRANSPORTING SERVICES
PERIOD COVERED: 07/01/97 - 09/30/97

	TOTAL RECORDS	EMERGENCY TRANSPORT		EMERGENCY TRANSFER		ROUTINE TRANSFER		NO TRANSPORT		REFUSED TREATMENT	
		#	%	#	%	#	%	#	%	#	%
STATEWIDE	43539	21506	49%	1395	3%	12972	30%	4788	11%	2878	7%
REGION 4	8578	4491	52%	337	4%	2590	30%	630	7%	530	6%
050 Bangor Fire Department	1061	695	66%	6	1%	21	2%	107	10%	232	